

Claims

What is claimed is:

1. A dosage form for delivering an antiepileptic drug to a gastrointestinal tract, comprising:
a compartment containing a drug formulation layer, the drug formulation layer comprising an antiepileptic drug;
a semipermeable wall surrounding the compartment, the semipermeable wall having a passageway that allows communication between the compartment and an exterior of the dosage form;
an internal lamina formed on an inner surface of the semipermeable wall, the internal lamina being substantially soluble in water;
wherein the internal lamina in a hydrated state forms a gelatinous layer that lubricates the semipermeable wall, thereby substantially preventing crack formation in the semipermeable wall while the dosage form is dispensing the drug.
2. The dosage form of claim 1, wherein the internal lamina comprises one or more water-soluble polymers.
3. The dosage form of claim 2, wherein the one or more water-soluble polymers are present in the internal lamina in an amount of at least 80% by weight.
4. The dosage form of claim 2, wherein the water-soluble polymers are selected from the group consisting of hydroxy alkylcellulose, hydroxypropyl alkylcellulose, carboxy alkylcellulose, and polyalkylene oxide.
5. The dosage form of claim 1, wherein the semipermeable material is selected from the group consisting of cellulose acylate, cellulose diacylate, and cellulose triacylate, and blends thereof.
6. The dosage form of claim 1, further comprising an expandable layer disposed in the compartment, the expandable layer assisting in delivery of the antiepileptic drug through the passageway.

7. The dosage form of claim 6, wherein the internal lamina forms a permeable interface between the semipermeable wall and the antiepileptic drug formulation layer.
8. The dosage form of claim 7, wherein the internal lamina forms a permeable interface between the semipermeable wall and the expandable layer.
9. The dosage form of claim 1, further comprising an external lamina formed on an external surface of the semipermeable wall.
10. The dosage form of claim 8, wherein the external lamina comprises an antiepileptic drug and is configured to immediately deliver the antiepileptic drug in the gastrointestinal tract.
11. A process for maintaining the integrity and performance of a dosage form having a semipermeable wall enclosing an antiepileptic drug formulation, comprising:
laminating an inner surface of the semipermeable wall with a lamina that is substantially soluble in water;
wherein the lamina when hydrated forms a gelatinous layer that lubricates the semipermeable wall, thereby substantially preventing crack formation in the semipermeable wall as the dosage form dispenses the drug.